ORIGINAL

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EX PARTE OR LATE FILED

Date: November 21, 2001

Office of the Secretary
Magalie Román Salas
Federal Communication Commission
Room TWB 204
445 12th St., SW
Washington, DC 20554

FCC DOCKET NUMBER: RM - 10108

FCC REFERENCE NUMBER: EB-01-TS-11

SUBJECT: Written "Ex-Parte Presentation" for petition for rulemaking RM-10108

Dear Secretary Salas:

Enclosed is one original and one copy of a written "Ex-Parte Presentation" which further supports our position for the petition for rulemaking RM-10108. Under separate cover, two copies of the "Ex-Parte Presentation" have been sent to the Enforcement Bureau and one copy has been sent to the FCC's Information Office.

This submittal was submitted on October 24, 2001 via US postal Service - Express Mail. The FCC did not receive this information. Thank you for your patience regarding this matter.

Sincerely,

James L Leichner
President & CEO

No. of Copies rec'd 0+1
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ENC: written "Ex-Parte Presentation"

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WRITTEN EX-PARTE PRESENTATION

FCC DOCKET NUMBER: RM - 10108

FCC REFERENCE NUMBER: EB-01-TS-11

SUBJECT: "Petition for Rulemaking" for the DABT System to become a national emergence alert system using the the Local Telephone Exchanges.

THIS WRITTEN "EX-PARTE PRESENTATION" IS FOR THE PURPOSE OF FURTHER SUPPORTING THE "PETITION FOR RULEMAKING" RM-10108 THAT WAS SUBMITTED TO THE FCC ON JANUARY 8, 2001.

THIS WRITTEN "EX-PARTE PRESENTATION" IS SUBMITTED AND VERIFIED TO BE TRUTHFUL BY THE UNDERSIGNED TO THE BEST OF HIS KNOWLEDGE:

DATE: OCTOBER 23, 2001

JAMES L LEICHNER
PRESIDENT &CEO
DABTCOM TECHNOLOGIES, INC

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SUMMARY

DABTCOM Technologies, Inc., commissioned Telcordia Technologies, Inc. to perform an independent "Technical Feasibility Study" on how the DABT System shall be interfaced with the Local Telephone Exchange switching systems, and how the performance and the capacity resources of various switching families will be able to carry out the DABT System's directions and requirements. This written "Ex-Parte Presentation" discusses the independent "Technical Feasibility Study" of the DABT System.

There are approximately 33 types of Local Telephone Switch families in the USA. However, the 5ESS and the DMS-100 Switching families dominate all Local Switches, making up about 75% of all NXX counts. Telcordia used the DMS-100 Switching family as the model in their study since this type of Switch's Ringing Capacity is more restrictive than the 5ESS Switching systems.

Telcordia examined the available Switch's resource and capability to determine if the Local Telephone Exchanges could accommodate the DABT System's needs. This analysis included examining the following: the Switch's Line concentration device outlet channels for the full duration of emergency alerting call; Ringing Capacity and available resources during the pre-answer portion of each call; Announcement capabilities during the post-answer portion of each call; and processing resources for call setup.

It has been concluded that the DABT System can interface with the local telephone exchanges and that our National Telephone Network infrastructure can support a National Emergency Alert system. The DABT System would have the ability to approximately alert 40 million subscribers within 6 to 14 minutes by telephone.

A GENERAL OPENING STATEMENT

On January 8, 2001, DABTCOM Technologies, Inc., petitioned the Federal Communication Commission for a rule making proceeding to allow the "DABT System to become one of this Nation's primary National Emergency Alert Systems (EAS) and to be part of the National Security Emergency Preparedness.

On April 18, 2001, DABTCOM Technologies, Inc., submitted additional information to further support the original "Petition for Rulemaking" as requested by the Enforcement Bureau of the Federal Communication Commission. In that document, it was stated that DABTCOM Technologies, Inc., commissioned Telcordia Technologies, Inc., to perform an independent "Technical Feasibility Study" on how the DABT System will be interfacing with the Local Telephone Exchange switching systems, and the performance and capability of the Switch to be able to perform what is required by the DABT System's to alert their subscribers.

Telcordia was selected to perform this study because of their broad expertise in telecommunications, along with current activities in requirements and/or standards related to e9-1-1 service and community notification/disaster preparedness. Furthermore, Telcordia's expertise in the evolution of existing public safety networks and the inner workings of the telephone ESS switching systems further supports their involvement in the identification of feasibility issues associated with the DABT System.

This study has now been completed.

It was also stated in our April 18, 2001 response that we would be sending a copy of this study to the FCC. However, because of Telcordia's copyright restrictions, no reproduction of this report is allowed. DABTCOM Technologies Inc received only one copy of the "Technical Feasibility Study". Nevertheless, this study may be hand carried to the FCC for their review upon request.

The purpose of this written "Ex-parte presentation" is to convey the results to the FCC of Telcordia's "Technical Feasibility Study" and other important information that we obtained that will further support our position.

THE PURPOSE OF TELCORDIA'S STUDY

The purpose of the Telcordia study was to examine the impact on the Local Switching Systems when interacted with the DABT system during emergency situations. Specifically, this report addressed the Switching system's capability, including its capacity and performance related to the simultaneous establishment of multiple outgoing connections, as well as the support of distinctive alerting on those connections and the provisions of announcements to subscribers upon call answer. Impact on active calls, and incoming and outgoing call attempts were also examined.

Since the DABT System would need to interface with the Local Switching Systems, the study examined various ways for this to be accomplished. To achieve this interface connection between the Switch and the DABT System, Telcordia suggested that any INTERNET connections to the Switching Systems would need to go through a private data network, and the DABT System would need to actually interface to a firewall associated with that private data network rather than directly to the Switch itself. Public INTERNET protocol (IP) would be unlikely because of security considerations.

DIAL-UP BACKUP SYSTEM

Telcordia suggests that the DABT System design should not consider including the use of a dial-up backup system to reach the Switch in case the IP connections fail. While dial-up backup arrangements used to exist on virtually every telephone switching systems, most have been taken out of service because of security reasons.

NUMBER OF LOCAL TELEPHONE SWITCH FAMILIES

There are approximately 33 types of Local Telephone Switch families in the USA. However, the 5ESS and the DMS-100 Switch families dominate all Local Switches, making up about 75% of all NXX counts. Telcordia used the DMS-100 Switch family as the model in their study, since this type of Switch's ringing capacity is more restrictive than the 5ESS Switching systems.

VARIOUS SWITCH SIZES

There are a broad Switch sizes in the DMS-100 Switch family. The sizes that range from 10,000 through 120,000 lines per Switch serves the vast majority of the subscriber lines in the USA. Note, a 10,000 line Switch would serve up to 10,000 telephone subscribers. For the purpose of this document, only Telcordia's results for the 40,000 Line Switch systems will be discussed. This is because the 40,000 line Switch is the average Switching system for large incumbent Local Exchange Carriers. Any solution must work well for the 40,000 line Switch since this represents the class of Local Switching System that serves more lines than any other.

VARIOUS DISTINCTIVE RINGING PATTERNS

In the DABT System design , a distinctive ringing pattern is recommended to be used. A distinctive ringing pattern would alert the telephone subscribers in advance that the incoming call is an emergency. The switching systems generally support four distinctive ringing patterns. Telcordia recommended that the ringing pattern chosen for the emergency alert notification be an existing ringing pattern that is not being widely used for other services. The distinctive ringing patterns will be most useful so that it is easily distinguishable by the subscribers.

THE SWITCH REQUIRED CAPABILITY, CAPACITY, AND PERFORMANCE TO SUPPORT THE DABT SYSTEM

Telcordia examined the available Switch's resources to determine if the Local Telephone Exchanges could accommodate the DABT System's needs to get the alert messages out in a reasonable amount of time. These Switches must have enough capacities and resources available to perform the DABT System's requirements. The kind of resources that are required to support the DABT System's capability includes: line concentration device outlet channels for the full duration of emergency alerting calls; ringing resources during the pre-answer portion of each call; announcement capability during the post-answer portion of each call; and processing resources for call setup.

For the Switching System's capacity and performance considerations, Telcordia examined two basic approaches, which were a "Normal Ringing" approach and a "Preliminary Ringing" approach. The "Normal Ringing" approach considered the ringing time-out associated with the distinctive ringing pattern to be set for 25 seconds (5 rings). This approach gives a high level of opportunity for each call to be answered in the first ringing cycle.

The "Preliminary Ringing" approach would set the ringing time-out to 10 seconds (2 rings). This shorter duration of the ringing time would allow all the telephone subscribers to receive the distinctive ring pattern in a much shorter time, alerting them

that an emergency condition exists. The second subsequent ringing cycle would use the "Normal Ringing" approach and would apply after the first ringing cycle of the "Preliminary Ringing" approach.

RINGING CAPACITY OF THE SWITCH

THE RINGING CAPACITY OF THE SWITCH is the most restrictive portion of the Switch. The main limiting factor for the DABT System to be able to reach the 40,000 telephone subscribers is the Ringing Capacity of the Switch. The Ringing Capacity is set in concrete - it is fixed. That is, there is nothing that can be done to the Switch that would increase how fast the Switch can ring its subscribers without a major redesign of the Switch. The Switch can function only as fast as it can and that is it.

The DMS-100 Switch's ringing supply can be modeled as a 45:1 concentrator inside the line unit. A line unit represents 640 lines. A concentrator serves a number of lines by allowing them to connect to a much smaller number of internal switching network channels. The most typical concentration ratio for the concentrators is 6 :1 - i.e., six lines for each network channel.

The Ringing Capacity for this size Switch is approximately 960 lines (only 960 telephones can ring at one time). However, ringing all 960 phones at once would

use up all of the Switch's ringing capabilities and it would not have additional capability to ring other phones during the emergency alert duration. **We do not recommend to use all of the Switch's Ringing Capacity resources, for the Switch would not allow any calls to be processed, even other emergency calls during this time.** However, this is easily controlled. The traffic control mechanism can limit the rate of calls so that the Switch wouldn't use up all of its Ringing Capacity for the DABT System. However, the duration of alerting the telephone subscribers would be stretched out.

Below, Table 1 shows the calculations for the time it would take to ring 40,000 telephone subscribers using all of the Switch's Ringing Capacity, reserving 10% of the Ringing Capacity for other emergency calls, and reserving 15% and 20% of the Switch's Ringing Capacity so not to disrupt other incoming and outgoing calls.

> NOTE: 10% reserved Ringing Capacity would handle most other emergency calls during the time that the DABT System would be using the Switch's resources. Reserving 15% to 20% of the Switch's Ringing Capacity would allow the Switch to function fairly normal.

TABLE 1

RINGING TIMES FOR A DMS-100 40,000-LINE LOCAL TELEPHONE EXCHANGE SWITCH

(MINUTES)

NUMBER OF RINGS	USING 100% RINGING CAPACITY	USING 90% RINGING CAPACITY	USING 85% RINGING CAPACITY	USING 80% RINGING CAPACITY
1	3.5	3.8	4.0	4.3
2	7.0	7.6	8.0	8.6
3	10.5	11.4	12.0	12.9
4	14.0	15.2	16.0	17.2
5	17.5	19.0	20.0	21.5

NOTE: THE ABOVE NUMBERS WERE CALCULATED FOR THE DMS-100 SWITCHING FAMILY, WHICH IS MORE RESTRICTIVE THAN THE 5ESS SWITCHING SYSTEM. THEREFORE, FOR THE 5ESS SWITCHES THAT MAKES UP APPROXIMATELY 38% OF ALL THE NXX TOTAL COUNTS IN THE USA, IT WOULD TAKE LESS TIME TO RING ALL 40,000 TELEPHONE SUBSCRIBER THAT IS SHOWN IN TABLE 1.

As Table 1 indicates, if we were to notify all 40,000 telephone subscribers of one Local Telephone Exchange, using 100% of its Ringing Capacity, it would take 3.5 minutes to ring their phone one time. To ring their phones five rings, it would take approximately 17 minutes. Using only 85% of the Switch's Ringing Capacity, five rings would take approximately 20 minutes to ring all 40,000 telephone subscribers.

This may be effective for some or even many emergency cases, however there will be cases where 20 minutes would simply be too long. To solve this problem, we introduce the concept of "Preliminary Ringing" approach to the DABT alerting functions. The "Preliminary Ringing" approach would set the ringing time-out to 10 seconds (2 rings). This shorter duration of the ringing time would allow all the telephone subscribers to receive a distinctive ringing pattern in a much shorter time, alerting them that an emergency condition exist. The second subsequent ringing cycle would use three consecutive distinctive ringing patterns and would apply after the first ringing cycle of "Preliminary Ringing" approach was delivered.

If the DABT System would only use 85% of the Switch's Ringing Capacity, reserving 15% of its Capacity for other functions and the "Preliminary Ringing" approach for those cases where time is of the essence would apply, two (2)

rings for all 40,000 subscribers would take approximately 8 minutes. Telcordia estimated that approximately 46% of these subscribers would have answered their phone during these first two rings. This means that these 46% of the total telephone subscribers would have answered their phones between 4 to 8 minutes, depending if they answered their phones on the first or second ring. This estimate is based partly on the fact that the ringing pattern is distinctive in nature, alerting the subscribers of the importance of the call. .

The 54% of the subscribers that did answered their phones during the first attempt would nevertheless have the benefit of hearing two cycles of distinctive ringing as an indication of an emergency condition within 4 minutes, but would not be able to hear the announcement content until the second cycle of alerting reaches them. The second attempt would need only to target these 54% of subscribers, which would shorten the total overall ringing time. It is estimated that it would take approximately 2 to 6 additional minutes to reach these subscribers, ringing their phones three times. It is felt that three rings would be significant because the subscriber has already started to make an attempt to answer their phone as a result of hearing the distinctive ringing pattern twice.

Hence, it would take approximately 6 to 14 minutes to reach all 40,000 telephone subscribers during such times of an emergency. Furthermore, since

the DABT System can communicate with over 1,000 Local Telephone Exchanges simultaneously, this would equate to approximately 18,400,000 subscribers receiving the alert during the first attempt within 4 to 8 minutes. It is estimated that 21,600,000 telephone subscribers would answer their phones during the second ringing attempt, which would add an additional two to six minutes for them to hear the alert message.

For an example, Columbus, Ohio area is serviced by approximately 24 Local Telephone Exchanges. During the first attempt, 441,600 telephone subscribers would be alerted within 4 to 8 minutes. The remaining 518,400 subscribers would be alerted within 2 to 6 minutes during the second attempt, and all of the Columbus area would be alerted within 6 to 14 minutes.

The above scenario was based on using only 85% of the Switch's Ringing Capacity, which we recommend. However, if 90% of the Switch's Capacity were used, it would reduce the ring time.

ANNOUNCEMENT CAPABILITY AND CAPACITY OF THE SWITCH

The Announcement capacity of a Switch can be easily enhanced by adding additional Announcement hardware. It is not like the Ringing Capacity that is fixed because of the Switch's architecture.

Telcordia examined the two most common announcement types, the Permanent Signal (PS) and the Partial Dial Timeout (PDTO) announcement hardware that are used in the Local Telephone Exchange switching systems. Telcordia performed Announcement Capacity calculations to estimate the number of announcement trunks or channels typically available in a local switching system. Telcordia also performed calculations to determine how many announcement channels would be required for a 40,000-Line Switch to service the DABT System's needs. Their evaluations considered answer rate, typical announcement characteristics, announcement capacity, length of the alert message, announcement trunk holding time and the average ringing time. They also assumed that the announcement trunks are to run 90% occupancy of the original announcement capacity for the DABT calls.

For a typical DMS-100 40,000-Line Switch, it was estimated that four Announcement DS1s are used. This represents 96 channels that are available

to carry recorded messages to the telephone subscribers. Furthermore, Telcordia calculated that 549 announcement channels or trunks would be needed to meet the DABT System's needs. That means that we would need to add additional announcement capabilities to each Switch.

In communicating with Electronic Tele-Communication, Inc. (ETC), one of the two major manufacturers of announcement hardware for these Switches, the cost would be reasonable to enhance the announcement capability of each Switch to meet the DABT System's needs. DABTCOM Technologies would be responsible for such costs..

LINE-UNIT CAPACITY

The subscriber lines connected to a local switching system are served by units called concentrators, which serve a number of lines by allowing them to connect to a much smaller number of internal switching network channels. The typical concentration ratio for a concentrator device is 6:1, i.e., 6 lines for each network channel. The engineered Average Busy Season Busy Hour (ABSBH) traffic capacity for such a concentrator is about 3.6 *ccs* per line, which is the standard North American Telephony term for a traffic usage level measured in "hundreds of call-seconds". On the average, about 40% of the concentrator outlets remain unused in the busy hour.

The LINE-UNIT capacity is not a concern for the implementation of the DABT System. The limiting factor is the Ringing Capacity. The Switch still has line concentrator capacity available when it used up all of its Ringing Supply Capacity. That is using all 100% of the available Ringing Capacity, there is still LINE-UNIT concentrators available. Remember, we recommended that the DABT System should only use 80% to 85% of the Ringing Capacity, leaving even more LINE-UNIT concentrators available for normal function of the Switch.

CONCLUSION

In our original "Petition for Rulemaking" (RM-10108), it was stated that our hopes were to alert all telephone subscriber within 5 minutes. Nevertheless, the DABT System still can alert millions of subscribers in a very short time, i.e., 40 million subscribers within 6 to 14 minutes.

The limiting factor is the Ringing Capacity of the Switch. The Switch can only ring so many phones at one time and it would be too costly to re-design the Switch's architecture.

The UNIT-LINE Capacity is not a concern in the implementation of the DABT System. The limiting factor here is the Switch's Ringing Capacity. The Switch still has line concentrator capacity available when it used up all of its Ringing Supply Capacity. As we recommended, the Ringing Capacity would never be completely used up.

Furthermore, the announcement capacity can be easily enhanced by adding additional announcement channels or trunks. In accordance to the manufacturer of the announcement hardware, the cost for this enhancement would be reasonable.

WE FEEL THAT WE CLEARLY DEMONSTRATED THAT OUR NATIONAL TELEPHONE NETWORK INFRASTRUCTURE CAN ALSO BE USED FOR A

NATIONAL EMERGENCY ALERT SYSTEM.

Once the DABT System is fully implemented, it would become part of this Nation's EAS and the Telephone Network Infrastructure. DABTCOM Technologies would participate in the development of all new telephone switching systems to reduce the time to alert their subscribers and making these systems more effective in alerting telephone subscribers when there is an emergency. As an example, by doubling the ringing capacity of a Switch, it would reduce the ringing time to the subscribers in half , which would be within 3 to 7 minutes. It is our goal that all telephone subscribers can be alerted by the DABT System in under 5 minutes when there is an emergency.

It must also be concluded that the DABT System would greatly enhance our current National Emergency Alert System (EAS) and our National Security Emergency Preparedness (NSEP) program. Furthermore, the DABT System would allow the President a greater capability to provide immediate communications and information to the general public at the National, State and Local levels during periods of national emergency as discussed in DABTCOM Technologies' Petition of Rulemaking RM-10108 and our April 18, 2001 correspondence.

END OF DOCUMENT